

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) - REGION I
RCRA CORRECTIVE ACTION PROGRAM

STATEMENT OF BASIS

FOR A

CORRECTIVE ACTION COMPLETION DETERMINATION

FOR

FORMER HOWE FURNITURE CORPORATION

151 WOODWARD AVENUE,
NORWALK, CONNECTICUT
EPA ID No. CTD001162858

AUGUST 2013

Based upon investigation activities conducted at the former Howe Furniture Corporation facility located at 151 Woodward Avenue in Norwalk, Connecticut, EPA is announcing its Completion Determination remedy proposal that Corrective Action obligations under the Hazardous and Solid Waste Amendments (HSWA) of the Resource Conservation and Recovery Act (RCRA) are "Complete with Controls."

INTRODUCTION

The U.S. Environmental Protection Agency - Region I (hereafter, "EPA") is announcing its Completion Determination remedy proposal under HSWA of RCRA.¹

¹ "Completion Determination" is a regulatory phrase that refers to a final disposition of a facility subject to Corrective Action obligations under the Resource Conservation and Recovery Act. In this case, the Completion Determination proposed for the Facility is one that is "Complete with Controls." More information on this category of Completion Determination can be found in the Federal Register notice entitled, Final Guidance on Completion of Corrective Action Activities at RCRA Facilities, 68 Fed. Reg. 8757 (Proposed Rule; Tuesday, February 25, 2003). This proposed rule is summarized for convenience on EPA's website http://www.epa.gov/wastes/hazard/correctiveaction/resources/guidance/gen_ca/compfeds.pdf (accessed July 30, 2013).

This proposal states that Corrective Action obligations at the former Howe Furniture Corporation facility, located at 151 Woodward Avenue in Norwalk, Connecticut (hereafter, "Facility" or "Site") are "Complete with Controls". Investigation activities conducted at the Facility demonstrate that releases of hazardous wastes or hazardous constituents do not pose a threat to human health or the environment for the proposed risk exposure and current and future land use assumptions. EPA's proposed Completion Determination is based on the results of investigation and reporting activities conducted by the Facility.

This document summarizes the regulatory status of the Facility, the results of various investigation and remediation activities performed at the Facility, and the reasons for proposing that a Completion with Controls determination is appropriate. EPA is publishing this document to provide an opportunity for public review and comment on this proposal. EPA will consider public comments as part of its decision making process.

This Statement of Basis is intended to:

- Explain the opportunities for **public participation**, including how the public may comment on this proposed Completion Determination and where the public can find more detailed information;
- Provide a brief **description and history of the Facility**;
- Present the **principal findings of investigations and activities** performed to date; and,
- Present **EPA's rationale** for proposing that Corrective Action obligations under HSWA of RCRA are Complete with Controls for the proposed current and future land use of the Site.

THE PUBLIC'S ROLE IN EVALUATING THIS CORRECTIVE ACTION PROPOSAL / RECOMMENDATION

The EPA is issuing this Statement of Basis as part of its public participation responsibilities under RCRA. The purpose of the Statement of Basis is to present the public a summary of the assessment activities, remediation activities, and risk assessment conclusions in support of site closure. All interested persons are invited to express their views on this proposal. Public comment on all potential Corrective Action proposals or measures, and supporting information, is an important contribution to EPA's decision making process.

Public Comment Period

Written comments on this proposal will be accepted throughout a 30-day public comment period.

The public comment period will last forty five (45) days from August 15 through September 28, 2013. During this public comment period, the public is invited to review this Statement of Basis and supporting information, and to offer comments to EPA.

A final decision regarding this proposed Completion Determination will not be made until the public comment period has closed and all comments received by EPA have been evaluated and addressed. EPA may modify this proposal based on any new information or substantive comments from the public.

Written Comments

If, after reviewing the information on the Facility, you would like to comment in writing on this proposal, or on any other issues related to this proposal, you should mail your written comments (postmarked no later than September 28, 2013) to:

Robert Brackett
Corrective Action Section
U.S. EPA
5 Post Office Square, Suite 100
Mail Code: OSRR07-3
Boston, Massachusetts 02109-3912

Please be sure to clearly indicate that you are commenting on this proposal.

Questions may be directed to Robert Brackett at (617) 918-1364, or brackett.bob@epa.gov

EPA Review of Public Comments; EPA's Decision Making Process

EPA will review comments received from the public as part of the process of reaching a final decision regarding the most appropriate action at the Facility.

If EPA receives comments, then a brief decision making document (Decision Document) will be prepared by EPA to address all significant comments received during the public comment period. If the comments result in significant changes to this proposal, EPA will seek additional public comments on a revised proposal.

If no comments are received that result in significant changes to this proposal, EPA's final decision will be issued in a brief letter to the Facility and interested parties of record.

Additional Public Information

This Statement of Basis provides only a summary description of the Facility investigation and other activities performed at the Facility. Therefore, the public is encouraged to consult the **Administrative Record**. As explained in more detail below, the Administrative Record is that collection of information (including data, reports, etc.) that EPA relied upon for its proposed remedy decision. In this case, the Administrative Record contains this Statement of Basis, and several reports which describe the investigation and remediation activities conducted at the site

The Administrative Record is available for review at the following locations:

Norwalk Public Library

1 Belden Ave

Norwalk, Connecticut 06850

(203) 899-2780

Hours: Monday and Thursday, 9:00 A.M. to 8:30 P.M.

Tuesday, Friday, and Saturday from 9:00 A.M. to 5:30 P.M.

Sunday closed.

EPA Region 1 website

www.epa.gov/region1/cleanup

Type in 'Howe' in the 'Find a Cleanup Site' box and click 'Go'.

FACILITY DESCRIPTION

The Former Howe Furniture Facility (EPA ID No. CTD001162858) is located on approximately 7 acres of land located at 151 Woodward Ave in Norwalk, Connecticut. The Site is developed with an L-shaped, single story, 117,000 square foot concrete block warehouse building that was originally constructed in 1962. The Site is accessed from Woodward Avenue by a shared driveway/right-of-way located along the northern property boundary. Pavement extends westward from Woodward Avenue and wraps around the Site to the southern side of the building. A grass lawn is located on the eastern side of the building along Woodward Avenue. The Site is located within a mixed commercial, industrial, and residential area. Abutting the Site to the south is a playground. A commercial/industrial building is located adjacent to the Site to the north. The Site is located within the 100 year floodplain of Village Creek, a wetland area that abuts the Site to the west. A

residential neighborhood is located across Woodward Avenue to the east. Norwalk Harbor is located approximately 0.25 miles to the east/northeast of the Site. The Site has always been serviced by municipal water and sewer since it was developed. The Site topography is nearly level.

FACILITY HISTORY

The Howe Folding Furniture Company manufactured wood and metal office and school furniture from 1962 until 1995. Howe conducted machining, dry grinding, welding, anti rust dipping, painting, metal parts cleaning, electrostatic spray painting, metal stamping and bonding, glue application, vapor degreasing, and silver soldering. Hazardous materials included various solvents, lacquers, thinners, and cadmium solder waste. The Facility formerly stored hazardous wastes for greater than 90 days, making it subject to RCRA Corrective Action and RCRA Hazardous Waste Closure requirements.

Prior to construction of the original building in 1962, the Site was a wetland. Construction of Site structures followed the filling of the wetland area. Additions were added to the building in 1970, 1975, and 1980. Following cessation of Howe Furniture operations, the building was subdivided and leased to several commercial businesses. Primary tenants at the Site since 1995 have included Cober Electronics (light electronics assembly), Pepperidge Farms (warehousing), the U.S. Postal Service, and other tenants using office space.

In 2005, groundwater beneath and in the vicinity of the Site was re-classified from GA to GB. There are no water supply wells within a mile of the Site.

APPLICABLE REMEDIATION STANDARD REGULATIONS (RSRs) CRITERIA USED TO ASSESS SOIL, SOIL VAPOR, AND GROUNDWATER CONDITIONS

The applicable RSRs for soil are the Residential Direct Exposure criteria (R-DEC), the Industrial/Commercial Direct Exposure Criteria (I/C-DEC), and the pollutant Mobility Criteria (PMC) for GB groundwater classified areas. Soils must meet the DEC, which is protective of direct human contact, in the uppermost two feet in paved areas and the top four feet in unpaved areas. Soil below those depths down to 15 feet that exceed the DEC can remain in place if an Environmental Land Use Restriction (ELUR) is obtained. On industrial or commercial properties, soil exceeding the R-DEC, but not the I/C DEC, can remain in place with an ELUR which prohibits residential use of the property. The PMC, which is protective of soils leaching to groundwater, is applicable to soil down to the seasonal-high water table in GB areas. Environmentally isolated soils that exceed the PMC for contaminants other than Volatile Organic Compounds (VOCs) can be left in place if an ELUR is

obtained. Howe is currently working to execute an ELUR, which will restrict future use of the Site to non-residential use, prohibit disturbance of soils beneath the building, prohibit demolition of the building, and render soils beneath the building slab inaccessible and environmentally isolated.

The applicable RSR criteria for groundwater at the Site are the Surface Water Protection Criteria (SWPC) which is protective of surface water quality, and the Ground Water Volatilization Criteria (GWVC), which is protective of volatile contaminants in groundwater off-gassing and migrating into buildings. The applicable criteria for soil vapor are the Soil Vapor Volatilization Criteria (SVVC).

SITE INVESTIGATIONS

The Site has been iteratively investigated since the early 1990's.

A Preliminary Assessment-Plus Report was prepared for the Site in 1992 which identified 12 Areas of Concern (AOCs). Major Site investigations occurred in 1995 and 1999, which are documented in reports submitted to EPA and/or the Connecticut Department of Energy and Environmental Protection (CTDEEP). Since the early 2000's, Site investigation activities were conducted under the EPA Region 1 Self Directed RCRA Corrective Action program with frequent input from EPA Region 1. Since the Site is also subject to the CTDEEP Property Transfer Act, Howe has been evaluating the Site based on the CTDEEP RSRs, which are applicable criteria for soil, groundwater, and soil vapor, under the direction of a Licensed Environmental Professional (LEP).

Groundwater quality has been periodically monitored at the Site beginning in 1995 when six monitoring wells were installed in Release Area (RA) RA-1/RA-12. Fifteen additional monitoring wells were installed in 1999 and more wells were installed in 2002, 2006, and 2009. One well, MW-By Others, was installed by the owner of the adjacent property to the north at 145 Woodward Avenue. The well is located in the right-of-way north of the property and has been sampled during recent sampling events. In 2009, wells MW103, MW-104, and MW-105 were installed near the northern property boundary, within the right of way, and on the adjacent parcel to the northeast. All of the monitoring wells on the Site are screened in the overburden. Most wells are screened across the water table from approximately 3 feet to 13 feet below ground surface (bgs). MW-19M and MW-19D are screened from 22-32 feet and 39-44 feet, respectively.

Howe conducted groundwater sampling events in August 1995, February and March 1999, August and December 2002, March and August 2006, quarterly in 2007, and September 2009. An on-Site groundwater plume of contaminants has never been

detected, although there have been spatially and temporally sporadic detections of several contaminants that may be attributable to historical Site practices and conditions. Sampling results over the years generally show decreasing concentrations of most of the contaminants.

Metals: Metals have been historically detected in groundwater at the Site, including arsenic, lead, cadmium, copper, mercury, and zinc. The levels have been generally decreasing slightly over time. Arsenic is the only metal that is consistently detected above the SWPC of 4 ppb. Arsenic was detected above the SWPC in half of the sixteen wells sampled in the most recent sampling event in September 2009. The average arsenic concentration in the eight samples exceeding the SWPC was less than 15 ppb. Arsenic is not known or reported to have been used in historical Site processes, and has been detected in background soil samples. The detections of arsenic in groundwater are widely distributed across the Site, are sporadic in occurrence, and do not appear to be associated with specific AOCs or areas of the Site. Instead, arsenic appears to be leaching from fill and/or marsh sediments underlying the surrounding area.

Tidal studies conducted at the Site have demonstrated that there is no net discharge of groundwater to the wetlands, and therefore, the SWPC do not apply.

Volatile Organic Compounds (VOCs): The applicable GWVC for the Site include the Residential Volatilization Criteria (Res-VC) and the Industrial/Commercial Volatilization Criteria (I/C-VC), both of which are 2 parts per billion (ppb). In 2003, proposed changes to the GWVC for vinyl chloride were released but never finalized. The proposed concentrations were 1.6 ppb for Res-VC, and 52 ppb for I/C-VC in groundwater. During the four quarterly sampling events conducted in 2007, vinyl chloride was detected above the Res-VC standard but below the proposed IC-VC standard in MW-By-Others, located in the right-of-way. Sampling of additional wells in the right of way (MW-103 and MW-104) and on the adjacent property (MW-105) indicate that detectable vinyl chloride concentrations are decreasing and are limited to the Howe northern property boundary/right-of-way. The most recent groundwater sampling detected vinyl chloride in MW-By-Others, MW-103, and MW-104 at concentrations less than 5 ppb. **These concentrations are above the 2 ppb Res-VC and I/C-VC standard, but below the proposed I/C-VC standard of 52 ppb.** The wells with vinyl chloride impacts are located within a right-of-way which allows access to the rear parcel, and as such, no exposure pathway exists for vapor intrusion as no buildings may be constructed in this area. No vinyl chloride was detected in off-Site well MW-105.

Extractable Petroleum Hydrocarbons (ETPH): Groundwater in RA-1/RA-12 has been sampled for ETPH to monitor the effectiveness of soil remediation conducted in

1995. ETPH has been detected only one time in April 2007 in wells located in and downgradient of the soil remediation area since March 2006. This confirms that the excavations removed the contamination. Over time, the ETPH concentrations across the Site have either decreased or remained at consistently low levels.

Tidal Study: Groundwater flow at the Site is variable due to the tidal influence of nearby Norwalk Harbor. The Site is located proximal to Norwalk Harbor to the east and south, and to a tidally-influenced wetland to the west. Groundwater elevation monitoring was conducted in 2002 to determine the impact of tidal fluctuations on the direction of groundwater flow. The evaluation showed that Site groundwater levels are tidally influenced. Overall, Site groundwater flow direction diverges to the northeast and the southeast, based on tidal fluctuations. It is likely that little-to-no net transport of groundwater or significant net impact occurs between the Site and the harbor. Tidal flux on the western portion of the Site appears to provide little to no net transport of contaminated groundwater between the Site and adjacent wetlands.

Soil Vapor Investigation: In 1999, 45 soil vapor samples were collected from various locations under the Site building to investigate the historical known or suspected waste and chemical storage areas, including formerly exterior portions of the original building. Concentrations of toluene, trichloroethane, xylenes, PCE, TCE, 1,2-DCA, and ethylbenzene were detected in a third of the samples, generally below 100 ppb, in a sporadic distribution. Two vapor points had elevated concentrations of toluene (480 ppb) and TCA (up to 202 ppb). All VOC concentrations were below the RSR criteria for soil vapor, although the results were not strictly comparable to RSRs because the samples were analyzed in the field. Soil samples were collected from the area of the elevated soil vapor points during installation of MW-2, and no significant contamination was found. Trace concentrations of TCA were detected in groundwater from this area in 1999, but concentrations were below applicable GWVC.

Sediment and Surface Water Investigation: A habitat assessment was conducted in 2002 to determine whether or not the wetland was being negatively impacted by groundwater discharging from the Site. The wetland was described as having dense vegetation along the eastern limit of the wetland, which abuts the Site, and a salt marsh community in the western part of the wetland. Linear ditches dug into the marsh drain water out of the marsh to a tidal creek that drains to Village Creek and eventually to Long Island Sound to the south. The marsh is bordered to the north, east, and west by industrial facilities. There is no record of any State or Federally listed species in the wetland. Since there is little to no net transport of groundwater between the Site and the wetland, and wells have not shown any

significant contamination, groundwater discharge from the Site to the wetland is not a concern.

Groundwater Reclassification and Receptor Survey: A well receptor survey was conducted in 2004. All nearby residences and commercial/industrial facilities were found to be connected to municipal drinking water supply. In 2006, an application for a groundwater reclassification from GA to GB was approved by CTDEEP, subjecting the Site to GB RSR standards.

Ecological Risk Assessment: A Screening Level Ecological Risk Assessment (SLERA) was performed in July 2009. The SLERA determined that the reported concentrations in groundwater suggest that transport from groundwater to sediment is not a significant pathway. The existing sediment samples data collected downgradient of the Site were from locations subject to area wide flooding, which may be impacted by numerous nearby industrial/commercial sites that surround the wetland area. The collected data showed no significant concentrations of metals or VOCs, which indicates no source or route for contaminant migration to the wetlands. Since the former 3,000 gallon fuel oil Underground Storage Tank (UST) and a former hazardous waste storage area were removed and the Site is paved and drained with a catch basin system, there is no current storm water runoff migration pathway from any remaining potentially contaminated soils to the wetland area. No contaminants, except for a recent detection of arsenic, have been detected in groundwater near the wetland area. Based on the results of the SLERA, EPA concludes that there is no significant ecological risk concerning the adjacent wetland environment. Little to no risk to wetland receptors is likely from VOCs, SVOCs, TPH or metals in sediments and/or groundwater and transport from groundwater to sediment is not a significant pathway.

Areas Of Concern (AOCs)

A total of fifteen AOCs have been identified at the Site. These AOCs are briefly described below.

1. AOC-1. This area coincides with AOC-12, the former exterior hazardous waste storage area. A former 3,000 gallon heating oil UST was installed in 1977 and was removed in 1988. 1200 tons of petroleum contaminated soil were removed from the area in 1995. Confirmatory soil sampling was conducted post UST removal in 1995, and again in 2002 and 2006. Contaminants of Concern (COCs) included ETPH, SVOCs, and aromatic VOCs. Investigations concluded that a shallow release of petroleum from the former UST had occurred, but there was no evidence of a release from the drum storage area (AOC-12). After the collection and analysis of over 50 post excavation soil samples, the investigations show that the historical

remediation removed the petroleum contaminated soil, and that remaining soils are well below the I/C DEC and GB PMC. The ELUR will restrict the future use of the Site to industrial/commercial, keeping these soils in compliance with the RSRs.

2. AOC-2. The former ignitable material storage area was a 10 by 15 foot bermed area inside the building that was used to store bulk solvents, acids, paint, stain, lacquers, and paint thinner. A ventilation hole through the exterior wall was present at the floor level. COCs were ETPH, VOCs, pH, metals, and PCBs. Releases to the concrete floor, and potentially to soils below and adjacent to the building investigated via concrete chip and subsurface soil sampling in 1995. One surficial soil sample collected outside beneath the vent hole detected TPH at a concentration of 4,000 ppm. Additional sampling to delineate petroleum-impacted soils was conducted in this AOC in 1999, 2002, and 2006. Calculation of the 95% Upper Confidence Limit (95% UCL) will achieve compliance with RSR criteria.

3. AOC-3. The former hazardous materials storage area consisted of a 9 by 10 foot bermed area inside the building, which was used to store 1,1,1-TCA, waste paint, silver solder cooling water waste, and acetone. COCs included ETPH, VOCs, metals, SVOCs, pesticides, and PCBs. In 1994, Howe submitted the Closure Plan Part 1-Facility Information and Site Characterization Work Plan to CT DEEP. Howe conducted closure activities consistent with the Closure Plan, which was never formally approved. Thirteen Concrete chip samples and seven soil samples were collected in 2002. Arsenic was detected in a soil sample beneath the building at a concentration of 20 ppm, above the I/C-DEC of 10 ppm. The investigation concluded that no significant releases have occurred to soils beneath the building in this area. Except for the single exceedance for arsenic, all soils were below RSRs. The ELUR will render soils beneath the building inaccessible and environmentally isolated, bringing these soils into compliance with the RSRs.

4. AOC-4. The former compressed gas storage area was used for the storage of argon, oxygen and liquid petroleum/propane in compressed gas cylinders. Since there were no potential for impacts to soils or groundwater from this AOC, no samples were collected from this area.

5. AOC-5. The former de-scaling rinse tanks were in-use from 1982 to 1995. Four 500 gallon open vats of mild acid rinse solution containing traces of 1,1,1-TCA were periodically discharged to the municipal sewer. COCs included metals, ETPH, and VOCs. Releases to the concrete floor and possibly to the subsurface were investigated. Approximately 0.8 cubic yards of soil were excavated and removed from the Site in 1995/1996 and confirmatory soil sampling was conducted. In 1999 and 2002, additional soil borings were advanced and soil samples were collected and analyzed. Soils remaining are below RSR criteria except for relatively minor

exceedances of cadmium, arsenic, and total chromium in soil samples from beneath the building at concentrations exceeding the DEC and/or GB PMC. The ELUR will render soils beneath the building inaccessible and environmentally isolated, bringing these soils into compliance with the RSRs.

6. AOC-5a. A former sub-floor concrete lined piping trench located between the solder cooling water tank and de-scaling rinse tanks was in use from 1982 until 1995. The trench was filled with sand and housed copper and PVC piping. COCs include metals, ETPH, and VOCs. Releases that occurred to the concrete trench and which could have impacted subsurface soils were investigated. No releases were detected.

7. AOC-6. Two 80 to 100 gallon covered vats of silver solder cooling water discharged about 100 gallons of cooling water containing traces of 1,1,1-TCA per month from 1981 until 1995. Releases to the concrete floor and potentially to subsurface soils were investigated via concrete chip and soil sampling. Soil samples from below the concrete slab were collected in 1995, 1999, and 2002. The investigations concluded that a minor release of metals has occurred to the soil in this AOC. Soils beneath the building are within RSR criteria, except for exceedances of the I/C DEC for chromium and arsenic. The ELUR will render soils beneath the building inaccessible, bringing these soils into compliance with the RSRs.

8. AOC-7. The former 1,1,1-TCA vapor degreaser was in use from 1989 until 1995. Approximately 80 to 220 gallons of spent solvent was generated per month. COCs for this AOC include VOCs, ETPH, and metals. Releases to the concrete floor and possibly to the subsurface were investigated via concrete chip and soil sampling. Soil samples were collected in 1999 and 2002. Trace levels of VOCs were detected, and results were below applicable RSRs. Detections of arsenic (12.4 ppm) and total chromium (185 ppm) are present in soils beneath the building at concentrations exceeding the I/C DEC. The ELUR will render soils beneath the building inaccessible, bringing these soils into compliance with the RSRs.

9. AOC-8. The former pre-powder cleaning lines and tanks handled rinse water containing residual bromo-dichloromethane, chloroform, xylenes, and 1,1,1-TCA, which was initially discharged to the municipal sewer and later re-circulated. Releases to the concrete floor and possibly to the subsurface were investigated via concrete chip sampling in 1995 and soil sampling was conducted in 1999. No significant problems were identified and results were below RSRs.

10. AOC-9. The former dust/powder overspray area operated between roughly 1980 until 1995 and was used in conjunction with an air filtration system. Releases

to the concrete floor and possibly to the subsurface were investigated via concrete chip sampling in 1995 and soil sampling conducted in 1999. Results were below the applicable RSRS and no problems have been identified with this AOC.

11. AOC-10. The former powder curing/baking oven was in use from 1960 until 1995. Releases to the concrete floor and possibly to the subsurface were investigated via concrete chip and soil sampling in 1995 and soil sampling in 1999. No evidence of a release has been identified in this AOC and all soil sampling results were below RSR criteria.

12. AOC-11. The former lacquer spray hood was used between 1985 and 1995. Releases to the concrete floor and possibly to the subsurface were investigated via concrete chip sampling in 1995, and soil sampling in 1999. All sample results were well below RSR criteria. No evidence of a release from this AOC has been found.

13. AOC-12. The former hazardous waste storage area (coincident with RA-1) was an outside storage area for drums of waste solvent, paint, lacquer and/or paint stripper from 1982 until 1985. Historical Site inspections report staining observed on the pavement where drums were stored. Approximately 1200 tons of petroleum contaminated soil was removed from the area in 1995. Confirmatory soil sampling was conducted in 1995, 2002, and 2006. COCs include ETPH, SVOCs, VOCs, PCBs, and metals. ETPH concentrations in soils are below the I/C DEC and GB PMC.

14. AOC-13. The exterior TPH-impacted soils were identified near the former shredder machine and dumpster outside of the Carpentry Room. Releases to soil and groundwater were investigated in 1999 and 2002. TPH was detected at more than two times the standard of 500 ppm in one sample, and at 580 ppm in another sample. A soil vapor survey was conducted in the area and no VOCs were identified. Delineation of the petroleum impacted soils did not show the presence of TPH at concentrations greater than the RDEC. Calculation of the 95% UCL will achieve compliance with the RSRS.

15. A large tidal wetland area adjacent to the western Site boundary is a saltwater marsh that could potentially have been impacted from storm water runoff at the Site. The eastern limit of the wetland where it borders the Site was littered with debris such as cobbles, wood, metal, glass, and plastic, and supports a 60 to 70 foot wide dense stand of common reed. A SLERA was conducted based on the available Site data. Two shallow soil samples from the wetland area were collected and analyzed for TPH, SPLP metals, and VOCs. VOCs and SVOCs were not detected. TPH was detected in the wetland sediments at concentrations of 47 ppm and 26 ppm. These concentrations are consistent with typical urban background concentrations and not indicative of a release from the Site. The SLERA concluded

that there was little to no potential for risk to wetland receptors from Site contaminants in groundwater or from VOCs, SVOCs, and TPH measured in the sediment samples.

INVESTIGATION CONCLUSIONS

All soil contamination found at the Site was limited to surface or near surface soils. Major COCs were petroleum and metals. Soils exceeding the RSR I/C standards were removed during remedial activities conducted in 1995. At present, remaining soil contamination at the Site is limited to lower concentrations of metals and petroleum below applicable RSR criteria, or above RSR criteria but located under the building. Arsenic is pervasive at low levels, and is likely associated with the Site fill and/or marshy sediments below the fill. Potential unacceptable exposure risks from the remaining limited and shallow soil contamination are unlikely because the contamination is under buildings or pavement, exists at relatively low concentrations, and is unlikely to migrate or degrade the environmental quality further. All existing soil contamination can be brought into compliance with the RSRs by an ELUR to render the soils beneath the building inaccessible and environmentally isolated and limit the Site to Industrial/Commercial use.

Groundwater is contaminated with metals, ETPH, and VOCs at low levels. Only arsenic and vinyl chloride have been consistently detected at concentrations in excess of RSR criteria. Site overburden consists of shallow sand and gravel fill material overlying fine-grained organic-rich sediments. Groundwater is shallow and tidally influenced. Direction of groundwater flow has been measured many times and is variable. At different times, groundwater has been determined to be moving toward the adjacent wetland to the west, or to the north. At other times, groundwater flow appears to be toward Norwalk Harbor to the east. Groundwater flow direction appears to be dependent on the tides. Tidal flux on the western portion of the Site appears to provide little to no net transport of contaminated groundwater between the site and the wetlands, nor is there significant transport of groundwater between the Site and the harbor.

A wetland habitat assessment did not identify any known sensitive receptors in the wetland, which has been historically degraded by the significant industrial development in the surrounding area. Storm water outfalls from the municipal storm sewer along Meadow Street, on the eastern side of the wetland, discharge directly to the wetland, along with numerous private storm drains on the various industrial properties in the area, so there is significant storm water discharge from the developed commercial/industrial properties surrounding the wetland into the wetland. In 1995, wetland soils adjacent to the Site were sampled. No indications of significant contamination were found in the wetland soils. Except for arsenic,

there are no COCs in groundwater above the SWPC. Comparison of arsenic concentrations in groundwater to the chronic Aquatic Life Criteria demonstrates full compliance with that standard. A 2009 SLERA concluded that little to no risk to wetland receptors is likely from releases from the Site.

Currently, the only exceedance of VOCs in groundwater is vinyl chloride in MW-By-Others, MW-103, and MW-104. MW-103 is located about 20 feet south of the northern Site property boundary, and MW-By-Others and MW-104 are located in the right-of-way north of the property boundary. Concentrations of vinyl chloride are slightly above the RVC and I/C-VC standard of 2 ppb, but are well below the proposed standard of 52 ppb. Groundwater at the Site is classified as GB. No known drinking water wells are present in the vicinity of the Site. The closest residents are located 50 feet to the east, across Woodward Avenue. Wells MW-15 and MW-101 are located between MW-By-Others and the nearby residences, and do not have detectable levels of vinyl chloride. Well MW-105, installed at the adjacent industrial property to the north, did not have detectable levels of vinyl chloride above 10 ppb. The area of vinyl chloride contamination slightly above current standards in groundwater is limited to a roughly 100 foot long by 50 foot wide area, largely within the right-of way.

Final Remedies:

The following final remedies prepare the Site for verification by a Licensed Environmental Professional (LEP).

1. Soil excavation and off-site disposal of soils in 1996.
2. Reclassification of the groundwater quality from GA to GB in 2004.
3. Calculation of the 95% UCL for ETPH contamination in soil in RA-2.
4. ELUR to restrict the Site to non-residential use, prohibit disturbance of soils beneath the building and prohibit demolition of the building. These land use restrictions will have the following effect: bring soils beneath the building slab into compliance with the CT DEEP DEC and PMC by rendering soils inaccessible and environmentally isolated; and bring soil and groundwater contamination that is above residential criteria, but below the industrial/commercial criteria into compliance with the RSRs. To date, subordination agreements have not yet been received from participating parties.
5. Exceedances of SWPC for arsenic in groundwater will be addressed in the LEP Verification Report by explaining the no net discharge to surface water. As a

result, the SWPC do not apply to the Site. Comparison of arsenic concentrations in groundwater to the chronic Aquatic Life Criteria demonstrates full compliance with that standard.

EPA Proposed Decision

Based on the above information, EPA is proposing a Completion with Controls Determination for the Facility. In accordance with EPA guidance on Completion Determinations, EPA New England believes a Completion with Controls Determination is appropriate because:

- (1) a full set of corrective measures has been defined;
- (2) the facility has completed construction and installation of all necessary remedial actions;
- (3) site-specific media cleanup objectives have been met.

Note 1: Notwithstanding this Completion Determination, EPA or an authorized State may conclude additional cleanup is needed if, subsequent to this Completion Determination, EPA or an authorized State discovers evidence of unreported or misrepresented releases.

EPA'S RATIONALE FOR DISCONTINUATION OF THE FACILITY'S CORRECTIVE ACTION OBLIGATIONS

As briefly described above, EPA believes a Corrective Action "Complete with Controls" Completion Determination is appropriate for the following reasons:

1. A full set of corrective measures has been defined and completed.

As a result of investigation and remediation activities conducted by Howe, the contaminated soils within AOC-1/AOC-12 have been remediated. The extent of contamination in groundwater, soil, and indoor air have been identified, the petroleum release/source area and metals contaminated soils under portions of the building have been remediated, and the risks to human and ecological receptors have been evaluated. No further remedial activities are necessary. An ELUR will ensure the Site remains industrial/commercial, and that the soils below the building will be rendered inaccessible and environmentally isolated.

2. The facility has completed construction and installation of all required remedial actions.

Contaminated soils have been remediated. An ELUR will ensure the Site remains industrial/commercial, and that the soils below the building will be rendered inaccessible and environmentally isolated.

3. Site-specific media cleanup objectives have been met.

Remaining levels of contaminants in soils are below levels of concern for employees working at the site. Concentrations of VOCs in groundwater are below levels of concern for volatilization into indoor air. Contaminants in soil and groundwater are not likely to pose a risk to ecological receptors.

Evaluation of Remedy with respect to Standards and Decision Factors

EPA New England believes that, in addition to the rationale presented above, evaluation of the Facility with respect to Remedy Selection Criteria set forth in available EPA guidance provides a framework for measuring the effectiveness of a proposed remedy. See *Corrective Action for releases from Solid Waste Management Units at Hazardous Waste Management Facilities*, 61 Fed. Reg. 19432, 19449 (proposed May 1, 1996). These Remedy Selection Criteria are presented below:

Threshold Criteria:

Overall Protection. This completion determination proposal provides protection of human health and the environment. Specifically, the investigative and remedial work conducted by the Facility demonstrates protection of human health and the environment for current and future use.

Attainment of Media Cleanup Standards. The proposed completion determination attains the RSRs.

Controlling Sources of Releases. The historical on-site releases of hazardous materials to soil and groundwater have been remediated to levels below the applicable RSRs.

Compliance with Waste Management Standards. The proposed remedy complies with all applicable requirements for the management of solid wastes.

Balancing Criteria:

Long-term Reliability and Effectiveness. This remedy is effective and reliable with respect to the long-term since no monitoring or engineering controls are needed. An ELUR is required to maintain the reliability and effectiveness of this proposed Completion Determination.

Reduction of Toxicity, Mobility, or Volume of Wastes. The toxicity, mobility and volume of waste impacting the environment as a result of Facility operations has been reduced to appropriate levels for the current and future use of the site.

Short-term Effectiveness. The proposed remedy is comprehensive in the short-term since there are no immediate risks to human health or the environment.

Implementability. This remedy is believed to be easily implemented since no further actions, other than an ELUR are required to protect human health and the environment.

Cost. The Facility has spent significant time and money to investigate and remediate the Site. A Completion with Controls completion determination is appropriate for the Facility.

In summary, EPA, using all available information, is announcing its Corrective Action "Completion with Controls" Completion Determination proposal. Since investigations performed at the Facility demonstrate that releases of hazardous wastes have been remediated to levels which do not pose a threat to human health or the environment under current and future site uses, a Completion with Controls Determination is reasonable and appropriate.

